



Prof. Alessandro Massolo

Professor

University of Pisa, Pisa, Italy

Dr. Massolo has got his undergraduate degree in Biological Sciences at the University of Pisa (IT), where he also completed his Master of Science in Animal Biology and Behaviour in 1994, working on modelling the occurrence of wolves in the northern Apennines (Italy). In 2000, he then took his PhD at the University of Siena (IT) in Animal Biology (Zoology) on the behavioural ecology of the crested porcupine, and then he spent 4 years as post DOC at the University of Florence. Afterwards he served as sessional professor in various Universities across Italy until 2008 when he joined the Department of Ecosystem and Public Health at the Faculty of Veterinary Medicine (University of Calgary, Calgary, Alberta, Canada) as faculty member in Wildlife Health Ecology. At UofC he founded the Wildlife Ecology and Spatial Epidemiology Lab (WEASEL) with a wildlife biology wet lab and a GIS lab. He also co-founded the interdisciplinary Wildlife Disease Ecology Group (iWEG) at the University of Calgary for the promotion of interdisciplinary research and teaching. In 2016, he has been the Chair of the Wildlife Health Ecology research group at UoCVM. Since January 2017 he is Associate professor at the University of Pisa, Italy, where he joined the Ethology Unit at the Department of Biology, but maintained a connection with UofC as an adjunct Professor in Wildlife Health Ecology in the faculties of Veterinary Medicine and of Environmental Design. He is also adjunct at the School for Public Health of the University of Alberta, Canada and Associate Researcher at the UMR CNRS 6249 Chrono-environnement, Université Bourgogne Franche-Comté, Besancon, France.

His research interests are mostly on the ecology of complex systems with a particular focus on terrestrial ecosystems, using biostatistics, and ecological and mathematical modelling, but his research spanned from Ecology and Behavioural ecology, Wildlife management and conservation, to Physiology, applied Mathematics, Information Technologies, and allergology. His current main research projects are on the ecology and dynamics of complex systems, focusing on multi-scale spatial and temporal heterogeneity of ecological processes and patterns in prey-predator and hosts-parasite interactions, as well as of epidemiological processes. In particular, he is currently working on the following research topics: A) ecological interactions affecting gastrointestinal parasites transmission at the interface of wildlife, domestic animals and humans, and on B) the effect of climate and land use changes in arthropod distribution. He is currently coordinating a large interdisciplinary project on the ecology of transmission of gastrointestinal parasites of the genus *Echinococcus* at the interface with dogs and people in urban landscapes. He has taught Principles and Advanced Biostatistics in undergraduate and graduate programs since 1995, and General Biology and Ecological Statistics at undergraduate level. At UofC, he taught Spatial analysis in Ecology and Epidemiology, Research Design, One-Health and one course on Ecosystem and Public Health. At UNIFI, he teaches 'Biostatistics' (6CFU), 'Advanced Biostatistics' (6CFU), and 'Behavioural Ecology' (3CFU). His laboratory welcomes undergraduate and graduate students from all over the world, and hosts visiting scholars within international research collaborations. So far, he supervised independent and honours projects for about 45 undergraduate students and supervised or co-supervised 30 national and international graduate students. He has authored and co-authored more than 100 publications and 8 book chapters. Since in a permanent position (2009), he has obtained as main PI or co-PI/Applicant more than 635,000€.

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I. SELECTED PUBLICATIONS

Since I started my academic career I contributed to the publication of research papers in several fields and with different roles.

ROLE. To aid reviewing my scientific contributions, I used a coded system to facilitate understanding my role

in each paper. In papers related to population responses to environmental changes, I had a relevant role

(main author, below indicated as [MA]) in manuscript writing, complete or partial data collection, and

analysis, and I may or may not be the corresponding author ([CA]). In these papers I usually stimulate my

graduate students to write the first draft of the paper and I let them be the first author. In papers related to

animal behaviour and physiology my contributions were in the formulation of hypotheses and in data

analysis and manuscript editing (Hypothesis and Data Analysis, [HDA]). In contributions on mathematics and

information technology applications, I not only provided expertise and data on the biological problem, but I

also contributed to the development of the technology or of the analytical procedure, e.g. development of

software and algorithms (Content Expert and Application, [CEA]). In the publications on biomedical research,

my contribution was in the design of experiments, data analysis, and writing of material and methods, and

results sections (Experimental design and Data Analysis, [EDA]).

AUTHORSHIP. I stimulate my students to write the first manuscript draft after having discussed the objectives, key results and discussion with me. If they provide me a complete draft, despite the amount of

revision work needed for having a paper acceptable for submission, I let them be the first author and I

position myself as last author, keeping the corresponding author role (CA in the list provided in the Main

contributions box). When my contribution is major, I use the notation 'equally contributed to the paper' for

the student and myself. I tend to include among the authors all the people whose contribution was significant in terms of development of the project and research hypotheses, data collection and analysis, and

of writing of the manuscript.

LEGENDA. See below a list of selected publications of submitted, accepted and published papers.

When

available, journal impact factor (2011) and rank in the subject category are reported (e.g. 6.41; 3/70 INF DIS).

In bold are reported the graduate students, in bold underlined the undergraduate students (at the time of submission).

Published, in press or accepted Peer Reviewed Papers

1. Santa M.A., S.A. Pastran, C. Klein, P. Duignan, K. Ruckstuhl, T. Romig & A. Massolo (accepted; early pub online).

Detecting co-infections of *Echinococcus multilocularis* and *Echinococcus canadensis* in coyotes and red foxes in

Alberta, Canada using real-time PCR. *International Journal for Parasitology: Parasites and Wildlife* 00:000-000

(Cite score 2016 = 3.03; 8/343 Animal Science and Zoology) [MA, CA]

2. Goldsmith D.A., G. Oetelaar, S. Chalhoub, C. Klein, S. Bramer, E. Locke & A. Massolo (accepted). Canine alveolar

echinococcosis (*Echinococcus multilocularis*). *Pathology in Practice, Journal of the American Veterinary Medical*

Association (IF 2016 = 1.497; 35/136 Veterinary Sciences) [MA, CA]

3. Kermish-Wells J., A. Massolo, G.B. Stenhouse, T.A. Larsen & M. Musiani (2018; early pub online).

Space-time clusters for early detection of grizzly bear predation *Ecology and Evolution* 2017;1-14 (IF 2016 = 2.440; 57/153 Ecology) [MA]

4. Romig T., Deplazes P., Jenkins D., Giraudoux P., Massolo A., Craig P.S., Wassermann M., Takahashi K.,

M. de la Rue (2017). Ecology and life cycle patterns of *Echinococcus* species. *Advances in Parasitology*

(IF 2015 = 4.829; 4/36 Parasitology) [MA for North America; CEA for the rest]

5. Maas M., A. van Roon, C. Dam-Deisz, M. Opsteegh, A. Massolo, G. Deksne, P. Teunis, J. van der Giessen (2016). Evaluation by latent class analysis of a magnetic capture based DNA extraction followed by real-time qPCR as a new diagnostic method for detection of *Echinococcus multilocularis* in definitive hosts. *Veterinary Parasitology* 230: 20–24 (IF 2015 = 2.242; 13/36 Parasitology) [CEA]

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6. Zuliani A., A. Massolo, T. Lysyk, G. Johnson & S.C. Cork (2015). Modelling the northward expansion of

Culicoides sonorensis (Diptera Ceratopogonidae) under future climate scenarios. *PLoS ONE* 10(8): e0130294. doi:10.1371/journal.pone.0130294 (IF 2014 = 3.324; 17/93 Multidisciplinary) [MA, CA]

7. Liccioli S., P. Giraudoux, P. Deplazes & A. Massolo (2015). Wilderness in the ‘city’ revisited: different

urbes shape transmission of *Echinococcus multilocularis* by altering predator and prey communities. *TREPAR Trends in Parasitology* 37(1):297-305. dx.doi.org/10.1016/j.pt.2015.04.007 (IF 2014 = 6.204; 4/36 Parasitology; 8/93 Multidisciplinary) [MA, CA]

8. Smith A., C.A. Semeniuk, M.J. Rock & A. Massolo (2015). Reported off-leash frequency and perceptions of risk for gastrointestinal parasitism are not associated in owners of park-attending dogs: a multifactorial investigation. *Journal of Preventive Veterinary Medicine* 120(3–4):336–348 (IF 2013 = 2.506; 6/132 Veterinary Sciences) [MA, CA]

9. Smith A., M.J. Rock, N. Neumann & A. Massolo (2015). Urban park-related risks for *Giardia* spp. infection in dogs. *Epidemiology and Infection* 143(15): 3277-3291 doi:10.1017/S0950268815000400 (IF 2013 = 2.491; 44/162 Public, Environmental & Occupational Health) [MA, CA]

10. Liccioli S., Bialowas C., Ruckstuhl K.E. & A. Massolo (2015). Feeding ecology informs parasite epidemiology: prey selection modulates encounter rate with *Echinococcus multilocularis* in urban coyotes. *PLoS ONE* 10(3): e0121646. doi:10.1371/journal.pone.0121646 (IF 2014 = 3.234; 17/93 Multidisciplinary) [MA, CA]

11. Liccioli S., Rogers S., Greco C., Kutz S.J., Chan F., Ruckstuhl K.E. & A. Massolo (2015). Assessing

individual patterns of *Echinococcus multilocularis* infections in urban coyotes: non-invasive genetic sampling as epidemiological tool. *Journal of Applied Ecology* (52)434–442 doi: 10.1111/1365-2664.12401 (IF 2013 = 4.754; 20/141 Ecology) [MA, CA]

12. Massolo A., S. Liccioli, C. Budke & C. Klein (2014). *Echinococcus multilocularis* in North America: the big unknown. (Invited review paper as “State of the art speakers”) *Parasite* 21(73):1-13 DOI <http://dx.doi.org/10.1051/parasite/2014069> (IF 2015 = 1.781; 19/36 Parasitology) [MA, CA]
13. Klein C. & A. Massolo (2015). Demonstration that a Case of Human Alveolar Echinococcosis in Minnesota in 1977 was caused by the N2 Strain. *American Journal of Tropical Medicine and Hygiene* 92(3):477-478 (IF 2013 = 2.736; 3/22 Tropical Medicine) [MA, CA]
14. Mori E., Lovari S., Sforzi A., Romeo G., Pisani C., Massolo A. & L. Fattorini (2014). Patterns of spatial overlap in a large rodent, the crested porcupine. *Behavioural Processes* 107:112-118 (IF 2013 = 1.457; 40/49 Behavioural Sciences). [HDA]
15. Klein C., S. Liccioli & A. Massolo (2014). Egg intensity and freeze-thawing of fecal samples affect sensitivity of *Echinococcus multilocularis* detection by PCR. *Parasitology Research* 113(10):3867-3873 (IF 2012 = 2.327; 14/36 Parasitology) [MA, CA]
16. Liccioli S., Kutz S.J., Ruckstuhl K.E. & A. Massolo (2014). Spatial heterogeneity and temporal variations in *Echinococcus multilocularis* infections in wild hosts in a North American urban setting. *International Journal for Parasitology* 44:457-465 <http://dx.doi.org/10.1016/j.ijpara.2014.03.007> (IF 2013 = 3.404; 7/36 Parasitology) [MA, CA]
17. Liccioli S., Duignan P.J., Lejeune M., Deunk J., Majid S. & A. Massolo (2013). A new intermediate host for *Echinococcus multilocularis*: The southern red-backed vole (*Myodes gapperi*) in urban landscape in Calgary, Canada. *Parasitology International* 62(4):355-357. <http://dx.doi.org/10.1016/j.parint.2013.03.007> (IF 2012 = 2.302; Rank N 16/35 Parasitology) [MA, CA]
18. Liccioli S., Catalano S., Kutz S.J., Lejeune M., Verocai G.G., Duignan P.J., Fuentealba C., Hart M., Ruckstuhl K. & A. Massolo (2012). Gastrointestinal parasites of coyotes (*Canis latrans*) in the metropolitan area of Calgary, Alberta, Canada. *Canadian Journal of Zoology* 90(8):1023-1030. <http://dx.doi.org/10.1139/z2012-070> (IF 2012 = 1.498; Rank N 46/151 Zoology) [MA, CA]
19. Catalano S., Lejeune M., Liccioli S., Verocai G.G., Gesy K.M., Jenkins E.J., Kutz S.J., Fuentealba C., Duignan P.J. & A. Massolo (2012). *Echinococcus multilocularis* in urban coyotes, Alberta, Canada.

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Emerging Infectious Diseases 18(10):1625-1628. <http://dx.doi.org/10.3201/eid.1810.120119> (IF 2010 = 6.859; Rank N 3/58 Infectious Diseases) [MA, CA]

20. Liccioli S., Catalano S., Kutz S., Lejeune M., Verocai G.G., Duignan P., Fuentealba C., Ruckstuhl K. & A.

Massolo (2012). Sensitivity of double centrifugation sugar fecal flotation for detecting intestinal helminths in coyotes (*Canis latrans*). *Journal of Wildlife Diseases* 48(3):717-723. (IF 2010 = 1.415; Rank N 34/145 Veterinary Sciences) [MA, CA]

21. Massolo A., Dani F.R. & N. Bella (2009). Sexual and individual cues in the peri-anal gland secretum of

crested porcupines (*Hystrix cristata*). *Mammalian Biology* 74(6):488-496.

<http://dx.doi.org/10.1016/j.mambio.2009.07.004> (IF 2008 = 1.387; Rank N 41/125 Zoology) [MA, CA]

22. Massolo A., Spalton J.A., Tear T.H., Lawrence M.W., Said al Harsusi L. & S. Lovari (2008). Dynamic

social system in Nubian ibex: Can a second mating season develop in response to arid climate?

Journal of Zoology 274(3):216-225. <http://dx.doi.org/10.1111/j.1469-7998.2007.00373.x> (IF 2006 = 1.413; Rank N 34/114 Zoology) [MA, CA]

23. Massolo A., Spalton A. & F. Al Lamki (2008). Notes on the status and conservation of the reem gazelle

Gazella subgutturosa marica in the Sultanate of Oman. *Italian Journal of Zoology* 75(3):305-309.

<http://dx.doi.org/10.1080/11250000801915608> (0.939; 81/146 ZOOL) [MA, CA]

24. Mingozi T., Masciari G., Paolillo G., Pisani B., Russo M. & A. Massolo (2007). Discovery of a regular

nesting area of loggerhead turtle *Caretta caretta* in southern Italy: A new perspective for national conservation. *Biodiversity & Conservation* 16(12):3519-3541.

[http://dx.doi.org/10.1007/s10531-006-](http://dx.doi.org/10.1007/s10531-006-9098-6)

9098-6 (IF 2006 = 1.423; Rank N 12/25 Biodiversity and conservation) [MA]

25. Monetti L., Massolo A., Sforzi A. & S. Lovari (2005). Site selection and fidelity by crested porcupines for

denning. *Ethology Ecology & Evolution* 17(2):149-159.

<http://dx.doi.org/10.1080/08927014.2005.9522604> (IF 2008 = 0.943; Rank N 68/125 Zoology) [MA, CA]

26. Massolo A., Sforzi A. & S. Lovari (2003). Chemical immobilisation of crested porcupines with tiletamine HCl and zolazepam HCl (Zoletil[®]) under field conditions. *Journal of Wildlife Diseases* 39(3):727-731. (IF 2006 = 0.987; Rank N 41/128 Veterinary Sciences) [MA, CA]

27. Anile M.A., Furno P., Gallo G. & A. Massolo (2003). A fuzzy approach to visibility maps creation over digital terrains. *Fuzzy Sets and Systems* 135(1):63-80. [http://dx.doi.org/10.1016/S0165-0114\(02\)00250-6](http://dx.doi.org/10.1016/S0165-0114(02)00250-6) (IF 2006 = 1.181; Rank N 29/150 Mathematics, Applied) [EDA]
28. Glenz C., Massolo A., Kuonen D. & R. Schlaepfer (2001). A wolf habitat suitability prediction study in Valais (Switzerland). *Landscape and Urban Planning* 55(1):55-65. [http://dx.doi.org/10.1016/S0169-2046\(01\)00119-0](http://dx.doi.org/10.1016/S0169-2046(01)00119-0) (IF 2005 = 2.029; Rank N 44/114 Ecology) [MA]
29. Massolo A. & A. Meriggi (1998). Factors affecting habitat occupancy by wolves in northern Apennines (northern Italy): A model of habitat suitability. *Ecography* 21(2):97-107. <http://dx.doi.org/10.1111/j.1600-0587.1998.tb00663.x> (IF 2006 = 3.34; Rank N 19/114 Ecology) [MA, CA]

PUBLISHED BOOK CHAPTERS, BOOKS OR MONOGRAPHS

Books and book chapters - [main author]

1. Massolo A. & S. Liccioli (2016). Applying a multi-scale HACCP approach to understanding and preventing zoonotic parasite transmission in urban ecosystems: *Echinococcus multilocularis* and Alveolar Echinococcosis in North America. Chapter in *Case Studies in One Health: Addressing Complex Problems in a Changing World*. Editors: Cork, S.C., Liljebjelke, K., Hall, D.C.; 5M Publishing. Sheffield, UK.
2. Massolo A., Ammannati M., Fanini L. & C. Bencini (2007). *Exercise Book for General Biology Courses*. In Italian. Edises Publisher, Napoli, Italy.

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3. Massolo A., Gilio N. & A. Meriggi (2007). *Environmental Assessment Modelling*. In Italian. Edited for the Istituto Nazionale della Fauna Selvatica (National Institute for Wildlife).
4. Massolo A. (2006). Habitat evaluation models for wildlife: An application case for the Italian roe deer in the Pollino National Park. In: Moriani, G., Del Sole, E., Ostoich, M. and Nobili, I. (eds.) *Strategic Habitat Evaluation and Impact Assessment*. In Italian. Franco Angeli Editore.
5. Massolo A. (2006). Structural analysis of the ecological networks. In: Moriani, G., Del Sole, E., Ostoich, M. and Nobili, I. (eds.) *Strategic Habitat Evaluation and Impact Assessment*. In Italian.

Franco Angeli Editore.

6. Massolo A. (2006). Strategic Habitat Evaluation and Impact Assessment. In: Moriani, G., Del Sole, E.,

Ostoich, M. and Nobili, I. (eds.) Strategic Habitat Evaluation and Impact Assessment. In Italian. Franco Angeli Editore.

7. Anile A.M., Del Sole E., Massolo A. & L. Pozzato (2006). Assessment instruments: Environmental

modeling, Fuzzy methods of uncertainty analysis, GIS, Environmental monitoring. In: Moriani, G., Del Sole, E., Ostoich, M. and Nobili, I. (eds.) Strategic Habitat Evaluation and Impact Assessment. In Italian. Franco Angeli Editore.

8. Massolo A. (2006). Landscape analysis: An integrated approach between landscape ecology and biogeography. In: Moriani, G., Del Sole, E., Ostoich, M. and Nobili, I. (eds.) Strategic Habitat Evaluation and Impact Assessment. In Italian. Franco Angeli Editore.